

Pharmacological Terminology

Term	Definition	Example
Addiction	The state of being enslaved to a habit or practice, or to something psychologically or physically habit-forming. Cessation can cause varying degrees of trauma.	A patient is dependent on narcotics, regardless of whether they were prescribed or illegally obtained. Some view this as “labeling” and it is controversial. SEE DEPENDENCE.
Additive Effect	Two drugs working together to produce an effect a single drug would not produce on its own.	A person takes 300 mg of aspirin and 300 mg of acetaminophen to gain an analgesic effect. 300 mg of either drug by itself would not do a comparable job; whereas 600 mg of one would.
Adverse Reaction	An undesirable response to a drug that may be either sudden or take days to occur.	This would be a seemingly endless list of effects, from addiction and hearing loss to insomnia and seizures.
Allergy	A reaction to a medication that causes local and systemic symptoms (wheezing, watery eyes, swelling, itching, rash, etc.).	Common paramedic drugs such as narcotic analgesics, aspirin, and NSAIDs can cause allergic reactions.
Anaphylactic Reaction	The most severe allergic reaction which involves cardiovascular collapse (hypotension, airway swelling, and altered mental status)	Common paramedic drugs such as narcotic analgesics, aspirin, and NSAIDs can cause anaphylactic reactions.
Antagonist	When one drug prevents or reverses the reaction of another.	It can be chemical, such as when barbiturates antagonize amphetamines. It can be competitive, such as when Narcan antagonizes morphine at the opioid receptor. It can be physiologic, such as when atropine blocks vagal tone in order to raise heart rate.
Cross Tolerance	The resistance to the effect or effects of a drug as a result of tolerance previously developed to another drug having a similar pharmacologic action.	A heavy drinker will generally develop a tolerance to barbiturates, other depressants, and anesthetics because the alcohol causes the liver’s metabolic enzymes to deactivate these drugs more rapidly.

Term	Definition	Example
Cumulative Effect	Develops with repeated doses prior to the initial dose being metabolized and/or excreted by the body. This can lead to toxicity and is of particular concern in the very young, very old, and in patients with kidney or liver disease.	Cocaine and methamphetamine abusers will frequently encounter this as they go on “binges” or “runs.”
Delayed Reaction	A reaction that takes an extended period of time to appear. It usually involves an inappropriate reaction.	Common with anticonvulsants, NSAIDs, and corticosteroids. Can take up to weeks to develop.
Dependence	A physical “need” or psychological “desire” for a medication.	A patient is dependent on narcotics, regardless of whether they were prescribed or illegally obtained. This may be addiction without the “labeling.”
Desired Action	Based on the reason why you give a drug to a patient; the effect you would expect to occur.	Pain relief after a narcotic medication being administered.
Habituation	The emotional or psychological dependence on a drug after repeated use.	A patient who frequently uses narcotics or alcohol.
Half-Life	The amount of time that a drug remains at a therapeutic level to continue to produce the desired effect and the time it takes the body to metabolize the drug’s concentration by 50%. Very important for planning repeated doses.	It generally takes about 5 times longer than the half-life for a drug to reach a “steady state” in the blood plasma. Hence, after 5 half-lives a drug is considered cleared from the system.
Hypersensitivity	An exaggerated response to a drug, such as an allergic reaction.	Can happen with most any drug. Antibiotics, narcotics, and aspirin are a few for paramedics to be especially watchful of.
Iatrogenic Response	An adverse effect, condition, or disorder that is unintentionally produced by the administration of a drug.	A patient develops anaphylaxis after the administration of morphine.
Idiosyncratic Reaction (Idiosyncrasy)	An abnormal reaction that is unpredictable and unique to a specific patient rather than a group of patients.	A patient suffers cardiovascular collapse following the administration of a drug which is not known to normally cause that reaction.
Interference	Some classes of medications may interfere with specific body processes.	A patient has a wound that is not healing properly because he is on long-term steroid therapy.

Term	Definition	Example
Loading Dose	A single dose or accumulation of several closely repeated doses used to obtain the therapeutic level.	Lidocaine bolus given to a patient who has suffered a v-fib cardiac arrest.
Maintenance Dose	Additional doses of a medication, given after the loading dose for the purpose of maintaining the therapeutic level.	A lidocaine drip is started after the initial bolus in a patient resuscitated from v-fib cardiac arrest.
Potentiation	A combination reaction where one drug enhances the effect of the other.	Codeine and alcohol or Phenergan and morphine.
Side Effect	A response to a drug that is not the desired effect but seems to occur in many patients.	The headache associated with nitroglycerine or the tachycardia associated with albuterol.
Synergistic Effect	The effect of two drugs working together in an additive manner which results in an effect that is greater than the sum of their effects if taken individually.	Used interchangeably with potentiation. Alcohol and benzodiazepines cause a synergistic effect that is responsible for many deaths per year.
Tolerance	A decrease in the expected reaction to a drug with repeated doses.	You have a patient who takes analgesics for chronic pain and isn't receiving the expected relief from your doses of narcotics.